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C O N F I D E N T I A L SECTION 01 OF 03 BAGHDAD 000419

SIPDIS

STATE FOR ISN/NESS, DAVID KENAGY

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TAGS: [TPHY](#) [SEVN](#) [ETRGY](#) [TSPL](#) [PARM](#) [ENRG](#) [KGIT](#) [KNNP](#) [KSCA](#)  
ISCI, IZ  
SUBJECT: IRAQ MAKING ENCOURAGING PROGRESS ON NUCLEAR  
CLEAN-UP

REF: A. 08 BAGHDAD 1735  
[1](#)B. 08 BAGHDAD 2769

Classified By: ACTING CETI MICHAEL DODMAN FOR REASONS 1.4 (B, C)

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Summary  
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[1](#)1. (SBU) The Ministry of Science and Technology (MoST) took EconOffs, MNFI, and two visiting Texas Tech University (TTU) Professors on a walking tour of the Tuwaitha Nuclear Research Facility (TNRF) February 9 to assess the progress of MoST's nuclear facility dismantlement and disposal project. The TTU Professors, who visited TNRF several times in the past, were effusive in their assessment of MoST's progress since the clean-up project began in July 2008. MoST has the necessary training and equipment to complete the next phase of the decommissioning project but awaits regulatory go-ahead from the Iraq Ministry of Environment. Beyond the next phase, however, which should last approximately 6-8 months, Iraq will require further technical assistance and training to tackle the larger and more contaminated structures. Given the positive momentum of this project and the international credibility such success can bring to Iraq's government, the Embassy will work with the NEA/I, ISN/NESS, and international partners to find ways to continue building GOI capacity to carry on this program. End summary.

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Background: The Tuwaitha Nuclear Research Facility  
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[1](#)2. (SBU) The Tuwaitha Nuclear Research Facility (TNRF), located 15 kilometers southeast of Baghdad, was the nexus of Saddam's nuclear weapons program. TNRF contains approximately 45 buildings in various states of decay and contamination, including the Osiraq nuclear reactor, destroyed by the Israelis in 1981, and a Russian-built research reactor destroyed during the First Gulf War. Under Saddam, TNRF was administered by the Iraq Atomic Energy Agency (now subsumed under the Ministry of Science and Technology -- MoST). MoST now has responsibility for TNRF, including administration, security, and decommissioning of the contaminated structures.

[1](#)3. (C) Since 2003, Embassy Baghdad and Coalition forces have undertaken three significant TNRF projects. First, Project MAXIMUS, conducted in June 2004 under Department of Defense (DOD) lead, with nuclear work at Tuwaitha executed primarily by Department of Energy's Oak Ridge National Lab (DOE/ORNL). Project MAXIMUS removed from Iraq about 1000 radioactive sources of deemed proliferation risk which Iraq was not using for medical or research purposes plus about 1700 kilograms of low enriched uranium. The sources had been gathered from all over the country and temporarily stored at TNRF. (Note: Approximately 600 unwanted radioactive sources which cannot

be used for medical or research purposes remain in storage at TNRF. End note.) Second, Project McCall, again under DOD lead and execution of nuclear work by DOE/ORNL and coalition forces, removed 550 metric tons of uranium oxide ("yellow cake") from TNRF in June 2008 for transport and sale to a Canadian nuclear fuel company (ref A). Finally, in July 2008, with the yellow cake safely removed, MoST commenced the Iraq Nuclear Facility Dismantlement and Disposal Program with training and technical assistance of numerous international partners including ISN/NESS, the International Atomic Energy Agency (IAEA), Department of Energy Sandia National Lab (DOE/SNL), US Nuclear Regulatory Commission, the Civilian Research and Development Foundation (CRDF), and Texas Tech QResearch and Development Foundation (CRDF), and Texas Tech University (TTU).

¶4. (SBU) Through 20 internationally funded and hosted planning and training events since 2005, MoST, in cooperation with the Ministry of Environment (MoEnv), has developed a multi-phased project management plan for dismantlement of the TNRF Active Metallurgy Testing Laboratory (LAMA), judged to be a convenient training project for decommissioning workers since contamination levels are very low (ref B). The four phases of the LAMA decommissioning project are periphery clean up of the huge 62,000 square meter facility, dismantlement of the LAMA building, dismantlement of the radioisotope handling "hot cells" (one-meter thick reinforced high-density concrete), and finally, the LAMA basement. MoST completed phase one in December 2008.

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Phase One of the LAMA Project Complete  
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¶5. (SBU) On February 9, MoST officials took EconOffs, two visiting TTU professors, and MNF-I Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Team Leader on a tour of the TNRF to view the status of the LAMA decommissioning project and review future decommissioning plans. The TTU Professors, who visited the LAMA facility several times in the past, were extremely impressed by MoST's clean-up progress: The grounds had been completely cleared of almost 500 tons of metal and concrete wreckage, including separation into contaminated and uncontaminated debris. The TTU professors confirmed that the uncontaminated debris had no significant radioactive signature. The contaminated debris, amounting to two barrels of soil, were packaged, isolated, and clearly marked.

¶6. (SBU) MoST has submitted plans for phase two of the LAMA facility decommissioning but awaits MoEnv approval to commence the 6-month clean-up process. (Note: In a separate meeting, MoEnv Radiation Protection Center (RPC) officials told us that the RPC is awaiting MoST's report from phase one before granting the go-ahead to commence phase two of the LAMA clean-up. End note.) MoST envisions running other nuclear decommissioning projects in parallel with the LAMA facility, starting with a small undamaged nuclear fuel pilot plant in Baghdad. MoST will then have enough experience to commence cleanup of, in priority order, the larger contaminated debris at TNRF, liquid waste tanks, and the TNRF radiochemistry lab. MoST officials said that overall, there are twelve nuclear sites throughout Iraq requiring decommissioning or clean-up, with TNRF by far the largest.

¶7. (C) MoST officials took us on a walking tour of several other areas within TNRF, including the radiochemistry lab. TTU professors, using a handheld radiation detector, found a beaker of dried material in an open safe which gave an indication of a small contamination of 97% enriched uranium. TTU professors have undertaken to identify a mechanism for more detailed analysis of the contamination in question. In past visits, the TTU professors have taken soil samples from approximately 400 locations in TNRF, allowing them to create

a rough contamination map of the entire 3 square-kilometer facility. We also visited the only remaining site they had not previously sampled (the destroyed chemistry lab in the west corner of TNRF) and took soil samples which in initial on-site testing showed no contamination.

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The Way Forward?  
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18. (SBU) MoST has the necessary training and equipment to complete phase two of the LAMA decommissioning project as well as the fuel pilot plant in Baghdad; they only require regulatory go-ahead from the MoEnv RPC. MoST is providing all funding for clean-up operations. Beyond those two projects, when MoST must deal with the reinforced concrete fuel handling cells in phase three of the LAMA project or the large contaminated debris in TNRF, they will require further technical assistance and training. The Iraq Parliament has not yet approved the new draft law containing regulations and standards governing waste management developed as part of the international support program. Given the positive momentum of this nuclear decommissioning project and the international credibility such success can bring the GOI, the Embassy will look for ways to continue building GOI capacity to carry on this program, perhaps under the Strategic Framework Agreement or a Science and Technology Agreement. ISN/NESS has a recommended four-part plan for U.S. assistance, including training to dismantle reinforced concrete structures (including the LAMA hot cells), assistance in establishing a radioanalysis lab (necessary to conduct their own contamination analysis), waste management training, and assistance to complete a master plan for nuclear decommissioning, including waste disposal.

19. (U) Participant list:

Iraq:

- Dr. Faoud Shati -- Deputy Minister
- Dr. Talib Ebrahim -- Director General of Materials Science
- Mr. Adnan Jarjies -- Program Manager, Iraq Decommissioning Program
- Dr. Mohammed Abbas -- MoST Advisor
- Mr. Dheyaa Hussein -- Deputy Manager, Iraq Decommissioning Program
- Dr. Dr. Yousif Zaeir -- Deputy Manager, Iraq Decommissioning Program
- Mr. Hadi Ibraheem Jassim -- LAMA Facility Project Manager

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United States Embassy:

- Prof. Carl Phillips -- TTU Center for Environmental Radiation Studies
  - Prof. Ron Chesser -- TTU Center for Environmental Radiation Studies
  - Michael Uyehara -- Econ Infrastructure and Energy Team Leader
  - LTC Jeff Kyburz -- MNFI CJ3 CBRNE Team Leader
  - Roy Therrien -- ESTH Officer
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